



Honors Organic Chemistry Curriculum

Organic Chemistry is the study of carbon-based compounds and how these compounds are related to life (biochemistry). This rigorous course is designed for seniors, but is also open to juniors, who plan on attending college with a science major or an intended health-related career. The course is mostly organic chemistry, along with some biochemistry, building on the student's current understanding of inorganic chemistry. Included will be the nomenclature, properties and structure of saturated, unsaturated and aromatic compounds containing single and multiple functional groups. These compounds will also be investigated through various types of organic and biochemical reactions. The course work requires the use of memory and logic, as well as some math. The development of rational thinking is just as important as the factual content for this course. You will also improve many important tools and skills, problem-solving techniques, independent effort, reflective thinking, and real-world connections. You will do well in this course (and life) if you LISTEN and THINK!

Textbook: *General, Organic and Biochemistry- 7th Edition*; Denniston, K.J., Topping, J.J., Caret, R.L. (McGraw-Hill)

Unit 1: Intro to Organic Chemistry

Chap 10- The Saturated Hydrocarbons: Alkanes and Alkyl Halides

Unit 2: Alkenes, Alkynes, and Aromatics

Chap 11- The Unsaturated Hydrocarbons: Alkenes, Alkynes, and Aromatics

Unit 3: Alcohols, Ethers, Aldehydes, and Ketones

Chap 12- Alcohols, Phenols, Thiols, and Ethers

Chap 13- Aldehydes and Ketones

Quarter Break (former MidTerm Exam time)

Unit 4: Carboxylic Acids, Esters, Amides, Amines, and Nitriles

Chap 14- Carboxylic Acids and Carboxylic Acid Derivatives

Chap 15- Amines and Amides

Unit 5: Carbohydrates and Stereoisomers

Chap 16- Carbohydrates

Unit 6: Reaction Pathways

Review and extension of all organic reactions studied in course

Final Exam